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Clay modelling for schools : a progressi

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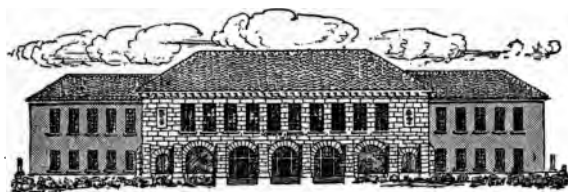


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MODELLING



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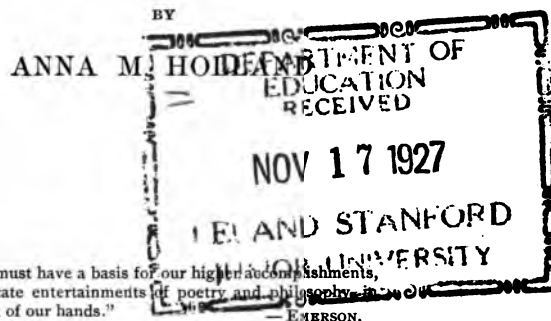
LELAND STANFORD
JUNIOR UNIVERSITY



CLAY MODELLING

FOR SCHOOLS

A PROGRESSIVE COURSE FOR PRIMARY AND
GRAMMAR GRADES



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CLAY MODELLING.



THE USE OF CLAY IN EDUCATION.

EMERSON says that the "healthy growth of the mind is just in proportion to the activity of thoughts on the study of outward objects." (*Natural History of Intellect*, p. 12.) Modern science says the same thing when it teaches that the human brain is by no means developed by the study of books alone, but very largely by the use of the hand. History also shows how tools and weapons have been the means of immense mental growth in the human race before the invention of printing. The scholarly Romans were conquered by our illiterate ancestors the Goths and Saxons, who proved themselves to be statesmen as well as warriors. It is certainly safe to say that there have been centuries of brain development in the evolution of man, comparatively few of which have been influenced by books.

It would be curious if it were some day to be discovered that the peculiar power acquired in modelling, drawing, and painting is as helpful to the success of the

literary man as a knowledge of Latin or Greek. Whether the truth of such a theory is susceptible of proof or not, there is certainly some ground for the belief that the training of the sculptor and the painter has imparted a certain vigorous quality, in notable cases, to the literary training by which it was supplemented, since it is not to be forgotten that the great names of Leonardo da Vinci, Benvenuto Cellini, Michael Angelo, and later those of Morris, Rossetti, Du Maurier, and others, stand among those who have both wrought and written with the strong hand of the master. Such facts as these strengthen the belief that the best education, even for the most intellectual pursuits, must still be pursued on the line of race development.

I go so far as to believe that our race owes more of its education to the use of clay than to any other one thing. The first efforts of men to make anything were in the soft clay or mud, with which they fashioned utensils, built their huts, and made rude images of worship. This soft material needs almost no tool; the hand of the worker follows directly the guidance of the eye, which, stimulated by a new demand, learns to see correctly. It would be impossible to say how much brain power has been developed by clay; but if we follow the progress of the race through all the ages, we see it everywhere; no period has been without it. When it was found that fire made it imperishable, a great discovery in the world's industrial

and educational progress was made. Then the enduring character of the utensil called for more careful workmanship, and lines were drawn on it to beautify it, to tell a story, or in some way to record the thought of the maker. The hut, made at first of soft mud, became by use of sun-dried or burned bricks a more elaborate building; and enduring beauty and symmetry were possible. Ages later, when civilization was at its highest, clay was still the best medium of expression; and the glory of Greek sculpture was due to the possibilities of clay.

Now is there not a lesson to educators in all this? Can we afford to ignore this common substance which has been the means of such wonderful development, which is the nearly perfect material in which to express form, and which has a fascination beyond any other? Nothing is more prosaic or ugly than the shapeless lump of clay; but nothing is more beautiful than this same clay transformed by the sculptor into a work of art. What can so well train the muscles to delicate use as a material upon which the slightest pressure is apparent? What can so well train the eye and the hand as clay, in which the finest subtleties of form can be expressed?

Clay is also susceptible of the greatest accuracy, although the softness of the material makes its attainment at first less easy than in wood. What is lacking in accuracy, however, is perhaps balanced by the infinite variety of form-study afforded by clay, the rapidity

with which results may be obtained, and the endless possibilities of improvement. The clay is never spoiled by a false touch; it can be corrected and worked over indefinitely.

The surpassing advantage of clay, however, over other mediums for manual and artistic training is perhaps the possibility of its employment at a very early age. I know no work in which children of all ages will be interested so long, nothing which better cultivates observation and taste, nothing which better teaches at once persistency, carefulness, industry, neatness, and truthfulness. I would therefore urge that provision be made for the increase of brain power in every child through the largest possible development of eye and hand, and that the literary education of our children should be strengthened, step by step, at every age by manual and artistic training, which includes not only tool work and drawing, but also modelling in clay.

AIMS AND METHODS.

This course of work is the result of fourteen years' experience in teaching modelling to more than six thousand children from seven years of age upward, from both public and private schools. Many models and methods have been tried, and while the present course of work is not wholly satisfactory to me, it has proved the best I have yet found. It is progressive, elastic, and educational.

In my early attempts in the use of clay with children I gave them only freehand work, and although the first results were, in a few cases, surprisingly good, the progress of pupils was noticeably unsatisfactory, and it soon became apparent to me that, for children above the kindergarten age, a certain amount of definite technical training must precede freehand or imaginative work in clay. I am convinced that it is for the lack of such training that the use of clay in schools has sometimes been rejected by teachers as too difficult. The young child has no power over his material, and in untrained hands clay is not adapted to picturesque treatment. The love of the picturesque can better be developed at first by other methods. In the modelling of the kindergarten much freehand work is given, and it answers its purpose well. The little child is delighted with his work, as was the primitive man; his sense of form is undeveloped; the rudest animal is to him a horse, a cow, a dog—anything having four legs. Soon, however, he sees that his animals are not like real ones; he tries to improve them and fails. As soon as he feels that his work is not right and does not see how or where to mend it, compares it with better things and cannot make it better, he loses interest and is discouraged. At this moment some technical training is essential to satisfactory progress. Such training has also a moral significance to the teacher in that it becomes a safeguard

against low standards of work. Many teachers are ready to testify to the demoralizing influence, in other branches of study, of careless methods of manual work, sometimes miscalled "artistic."

Ruskin says, "Get your voice disciplined and think only of accuracy, never of effect or expression; if you have any soul worth expressing, it will show itself in your singing; but most likely there are very few feelings in you, at present, needing any particular expression; and the one thing you have to do is to make a clear-voiced little instrument of yourself, which other people can entirely depend upon for the note wanted. So, in drawing, as soon as you can set down the right shape of anything, and thereby explain its character to another person, or make the look of it clear and interesting to a child, you will begin to enjoy the art vividly for its own sake, and all your habits of mind and powers of memory will gain precision; but if you only try to make showy drawings for praise, or pretty ones for amusement, your drawing will have little of real interest for you, and no educational power whatever."

It is with a full realization of the possible dangers of mechanical methods in teaching of every kind, especially in that which has artistic possibilities, that I must bear my testimony to the educational value of working at times toward a definite standard; and it is with the conviction that a certain amount of preliminary tech-

nical training need not repress individuality that I have so far changed my original plan as to begin by giving to children of seven years of age and upward, for their first work, designs based upon simple lines and geometric forms susceptible to mechanical tests. These are used, however, only so long as is found necessary by the teacher; and this point is to be decided by widely varying individual needs. In the course of work herein described, even with the youngest classes, inventions are encouraged along the lines of previous lessons, and variations on the easier patterns are given to unskilful children.

Throughout the course some time is always given to freehand problems, to original work, and to studies from nature; and these are found to be increasingly profitable when some power of handling clay and some ability to see correctly have been attained. I believe that there is no more danger of spoiling the artist by careful training than of spoiling the poet by teaching grammar. One of our most poetic artists has said: "A sculptor is nine-tenths mechanic and one-tenth poet."

The aims I have kept in view are the development of accuracy of observation, of muscular control, and of a sense of form and proportion with its resultant love of grace and symmetry and beauty. To this end it has been found important:—

1. To give only such exercises as are within the capacity of the child.

2. To offer only good models for his study.

To this last point I attach much importance. The eye of the child, like the ear, must be educated and made sensitive. For the same reason that he must not play poor music upon an instrument out of tune, he must not be allowed to rest satisfied with poor form. To invent his own exercises in form before he has learned to see correctly is, I believe, as unprofitable as to invent his own exercises in music.

This would seem to be the theory of the Japanese as seen in their educational exhibit at the Chicago Exposition in 1893, where a very large number of drawings shown were copied by school children from admirable originals. Another interesting feature of that exhibit was an especially beautiful series of progressive drawings, prepared for use in schools by a well-known Japanese artist. One finds the same tendency in the published course of study of the Tokyo Fine Art School, established "*To preserve the heretofore excellent qualities of Japanese Art,—at the same time adapting them to the needs of the time,—to promote artistic development, and to determine and set forth standards of excellence together with practical models.*" Here the time given by the adult students to working from copies in the first year is sixteen hours a week, and to drawing from nature (flowers, figures, etc.), six; in the second year to copying from masterpieces of the past, sixteen hours, and to

drawing from nature, ten. In sculpture the same proportion of copying and work from life or nature is maintained. That such careful technical training is necessarily destructive of individuality, or injurious to the artistic perception, is abundantly disproved by the work of the Japanese, who do far more for the cultivation of taste in their children, even though wage-earners, than we do. They give an education necessary to all, in their careful hand training, with the result of a nation full of incomparable artistic artisans as well as artists. It should be remembered that the use of clay makes such training possible long before the child is strong enough to cope with wood or metal.¹

¹ Huxley says: "If there were no such things as industrial pursuits, a system of education which does nothing for the faculties of observation, which trains neither the eye nor the hand, . . . might still be regarded as strangely imperfect. And when we consider that the instruction and training which are lacking are exactly those which are of most importance for the great mass of our population, the fault becomes almost a crime, the more that there is no practical difficulty in making good these defects. There really is no reason why drawing should not be universally taught; and it is an admirable training for both eye and hand. Artists are born and not made; but everybody may be taught to draw elevations, plans, and sections; and pots and pans are as good, indeed better models for this purpose than the Apollo Belvedere. There is this excellent quality about drawing of the kind indicated, that it can be tested almost as easily and severely as arithmetic. Such drawings are either right or wrong, and if they are wrong the pupil can be made to see it. From the industrial point of view drawing has the further merit that there is hardly any trade in which the power of drawing is not of daily and hourly utility." He also says: "I do not think its value can be exaggerated, because it gives you the means of training the young in attention and accuracy, which are the two things in which all mankind are more deficient than in any other mental quality."

After a certain amount of fundamental training, much entirely free work is given at all stages of this course. If any artistic aptitude exists, it is sure to be discovered during these lessons, which help to give to genius and to mediocrity alike the more perfect tools of fully disciplined powers with which to do his own special work, be it that of artist or artisan. By the means employed in this course of lessons it will also be discovered whether the supposed genius has only a "fatal facility," or is gifted with that more rare "capacity for taking infinite pains," characteristic of the highest order of mind.

In large classes from both public and private schools, the progress of pupils who have shown no excellence in other studies has often been marvellous, and there has been a gain in general power as well as special skill.¹ Much creditable modelling has also been done, both from the classic casts and from nature; while a lively interest in all forms of art has been developed, which is now leading boys, from certain public schools, up and down the streets of Boston to scrutinize architectural ornament or other forms of sculpture now for the first time made

¹ From A. B. Badger, *Carnarvonshire Report*: "Depend upon it that much of the confusion of thought, awkwardness, bashfulness, stuttering, stupidity, and irresolution, which we encounter in the world, and even in highly educated men and women, is dependent on defective or misdirected muscular training, and that the thoughtful and diligent cultivation of this is conducive to breadth of mind as well as to breadth of shoulders."

known to them through their own trained powers of observation. Interest in the work is unfailing, and the sessions are never so long that some pupils do not ask for more time. These results encourage the belief that in addition to valuable muscular training, obtained through modelling, a fresh appeal is made thereby to the tastes and emotions of children, and that a love of excellence as well as a love of beauty is aroused by which all work of the hand is likely to be ennobled.

SUGGESTIONS TO TEACHERS.

There are many difficulties in the way of one who attempts to teach modelling to a class in primary or grammar schools. Fascinating as it is at first, if children are allowed to try any subject they may fancy, the failure to attain their own standards will very soon discourage them. The spheres, cubes, and cylinders of the kindergarten have lost their interest, if they ever had any, and little advance can be made unless one follows some progressive line of work. If the child can be taught to correct his own work, he will have gone far along the way which leads him to see accurately. For this reason, after careful scrutiny by the eye alone, the exact test by measures and compasses should be applied, and later, calipers to measure studies in the round. The aim is to give the child every aid to cor-

rect his work, and then to require it to be as nearly right as he can make it.

The forms should be built up bit by bit and not pressed or pinched into shape. Plate VI shows clearly the steps in building the tile, drawing the design upon it, and developing the forms. After the modelling is done the clay is cut from the edges, leaving them sharp and even.

The tiles are usually eight inches square and should seldom be smaller. Make everything as large as spaces for keeping work will permit, and do not hurry. At first the progress seems to be very slow and it takes several lessons perhaps to complete the first tile, but when done the pupil should have learned a great deal. He can then draw his plan in full on paper, or read intelligently the blue print given him; build up bit by bit the tile, draw the design on the clay, which is not so easy as on paper, then outline it with little rolls of clay carefully fitted to the lines, fill up the spaces, model the surface, and cut the edges evenly and vertically. Nearly all artistic work in high or low relief is done in this manner, until practice enables the sculptor to dispense with some of these aids; but he seldom works entirely without mechanical tests. Even if the pupil has these, there is still a great deal to do by the eye alone, many subtle curves to be made which he never tries to measure with instruments.

The first forms on these tiles are convex and not undercut, because though less picturesque they are much easier to model. Illustration No. 1, Plate VII, can be varied later by making the edges high and leaving the centre low, like the leaf of the rubber plant on the same plate, which will be much more difficult. No. 3 on this plate, though in principle like No. 1, is harder to model, as the forms are smaller.

When a child has finished a tile creditably, it is advisable to give some easy freehand work from nature before another tile. Comparatively few illustrations are given here, because the subjects should be chosen freely from material at hand. In winter, leaves like the galax or ivy may be used. If placed on a bed of damp clay in the case and sprinkled, many leaves and even flowers will keep a week. It is better to finish at a second lesson, as the defects are seen when the eye is not wearied. In choosing from nature, select simple large things which have varied form, like the pitcher plants, lady's slippers, Jack-in-the-pulpit, milkweed pods, and various seed vessels, being careful that the modelling is attached firmly to the background and only undercut enough to give pleasing effects. The marks of the tool make the background more picturesque than if left smooth. Plate X has a variety of nature studies, of which the large thistle leaf at the top is the most difficult.

Vase forms carefully chosen either in low or high relief or in the round are excellent studies, as, if not well done, the defects are at once apparent, and the extreme beauty of the best Greek vases makes them excellent models. If modelled in the round, a support is needed like a stick inserted in a block of wood, around which the vase is built from the centre outward. Avoid rubbing the surfaces in finishing, but leave the little roughness which comes from the addition of bits of clay. When the form is good this is of no importance. The principle in painting of putting a bit of color on and leaving it applies to clay even more strongly. Work as much as possible with the thumb and keep taking off and putting on again rather than attempt to press or rub the work into shape.

Study the model well and go slowly. When studies in high relief or in the round are needed, there is an infinite variety of plaster casts to select from, but be careful not to buy from catalogues without considering the size and difficulty of the subject. Things which seem easy to the novice are often very difficult. No casts I have found are as easy as the tiles and vases illustrated. Plates XVII and XVIII are taken by permission of P. P. Caproni & Brother, Boston, from their catalogue, with the original numbers. The arrangement here is in order of difficulty, but the size of the subject cannot be shown as some of the drawings are on a small

scale. All these casts and every design except those on Plate XII have been many times successfully copied in primary and grammar schools.

But few models in the round are shown here, as much of such work is beyond the scope of this manual, which is intended for primary and grammar schools where time and accommodation would not often suffice for such large models, although the course of work herein described has proved an admirable preparation for our advanced pupils. The same training can be had from studies in high relief, which are more easily managed.

Above all, watch artists at work whenever possible, and keep familiar with methods which leave your pupils little to unlearn. In the hands of a teacher these methods afford every opportunity for educational manual training.

FIRST SERIES.

The series of borders with which the illustrations begin, Nos. 1-10, Plates I-III, is adapted to pupils from seven to nine years of age, and has been found especially valuable in giving a necessary control of the hand, good habits of work, and careful observation. Every pattern can be drawn by the child; the early ones being traced from the wooden squares and triangles provided for the kindergarten, and the later ones drawn with the aid of ruler and compasses. The

“pricking,” which gives valuable training, should not be required after the child has obtained enough control of the muscles to do this in the soft clay without going too deep or making the impression too faint.

As soon as the first series can be fairly executed, then the patterns with raised portions should be begun, and the “pricking” used sparingly, to bring out the effect of work in relief. (Nos. 11–18, Plates III, IV.) At this stage many studies can be made from nature in low relief, like the catkins (No. 18) or mistletoe. It is earnestly hoped that no one will think it necessary for every child to make all the designs. Their object will have been attained when the eye and hand have acquired the power to do the work in a fairly accurate manner. Nature studies are profitable only when not too difficult for the child. Blackboard drawings are recommended in teaching large classes. It is also advised that many inventions be made by the children along the lines of previous lessons, and that variations on the easier borders be given to unskilful children.

The borders with raised patterns (Nos. 11–17, Plates III, IV) are made by building the designs on backgrounds rolled to a convenient thickness. On these the pattern is drawn in very delicate lines. The manner of building is similar to that shown in the illustration of the first tile (No. 3, Plate VI), except in the little flower-like borders, where each petal is shaped separately. The pupil must

early learn to look at the work from different points of view and make his own corrections when possible. The working drawings may be made by the pupils, or given them to use as circumstances require. Plate XVI gives a specimen of the working drawings made and used by the pupils, or prepared for them.

SECOND SERIES.

With the building of the tiles, which should not be attempted by the average pupil under nine or ten years of age, begins the second series of models. The method used here is the same as that of the best sculptors, viz., building the forms to an outline and then filling the spaces, instead of pinching or pressing a large mass. (See illustrations Nos. 1, 2, Plate VI.) There is more to be learned in building this plane surface, if correctly taught, than in any other exercise in the whole course. After the tile is built, the pattern is drawn on the clay and the elevations built up to the required shape, as seen in illustrations Nos. 3-6, and the intervening spaces then filled up. This method, which is now that of most artists, has been adopted also for its educational value. I have seen a similar exercise given to graduates of an art school, by a well-known sculptor, as a profitable bit of practice.

In looking at the illustrations it will be noticed that this course is arranged in groups, each group containing

more or less the same exercises with sufficient variation in outline and shape to make the pupil feel an advance, avoiding the weariness of repetition. The nature studies are placed where similar subjects have been found useful. Clever pupils can do many of these, while the poorer workers are mastering the technical difficulties. Indeed, no course of work should be considered which cannot be adapted to individual needs.

EQUIPMENT.

The room should be large enough for tables and chairs to accommodate a class of not more than twenty-five, cases for unfinished work, and tight boxes to hold the clay. Wall space for models, which may be of fired clay or plaster, and drawings is also needed. The tables may be very simple, but should be thirty inches long and at least sixteen inches wide, with a strip at the back to prevent the clay from falling off. The back should have a vertical board attached (sixteen by six inches), with a snap to hold drawings. Roofing slates (nine by fourteen or sixteen inches) are good to work on; and partitioned cases with glass doors, and as little wood to shrink and swell as possible, are best to keep the work. (See illustration, Plate XIII.) The necessary tools are rulers, compasses (Prang's), triangles, and little wooden modelling knives, such as are sold at kindergarten supply stores.

These must be shaped slightly with a knife and serrated. (See illustration, Fig. 1, Plate XVI.) A rubber sprinkler is convenient, or a watering-pot, for wetting the clay. A set of models and blue prints is also needed. The cost of the entire outfit need not exceed three dollars per pupil for a class of twenty-five, and may be much less if several classes use the same room, which can be of service for other manual work like sewing, map-making, etc. Clay, being an entirely mineral substance, affords no food for the growth of bacilli; it can therefore be used many times with reasonable care. I have never had reason to believe that the least danger lurks in the use of clay, even to delicate children.

The best clay is that used by makers of stone jugs and crocks, and should be purchased at the potteries ready for use if possible. It can be bought ready for shipping at one dollar and fifty cents a hundred, if ordered in lots of five hundred pounds. In rolling for the borders use a common wooden rolling-pin, and the labor can be lessened by having strips of wood three-eighths of an inch thick to put on each side of the mass, thus regulating the thickness of the clay. Roll out on wooden tables, then place on the slates to harden a little before using.

DESCRIPTION OF PLATES.

Nos. I, II, III, IV, and V. Studies for children from seven to ten years of age, arranged in sequence.

No. VI. Methods of work.

Nos. VII, VIII, and IX. Models for children from ten to twelve.

No. X. Studies for occasional use.

No. XI. Sketches from nature by children about twelve years old.

No. XII. A selection of designs and nature work by members of a normal class.

No. XIII. A case for keeping unfinished work.

No. XIV. Pupils' work in highest grade of grammar school, after a one or two years' course of weekly lessons. Nos. 1, 3, 4, 5, 12, and 14 are original designs by the children.

No. XV. Useful studies contributed by other teachers.

No. XVI. Specimen of working drawings and a modelling tool.

Nos. XVII and XVIII. Selections from the catalogue of P. P. Caproni & Brother, Boston.

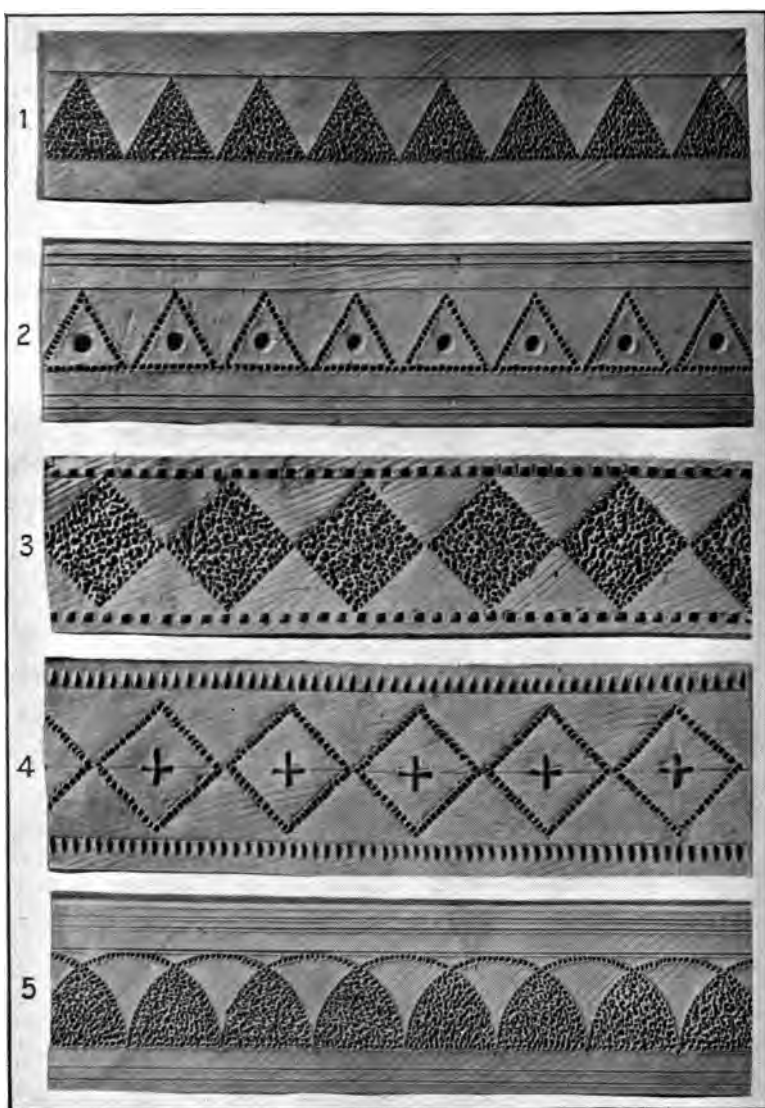


PLATE I.

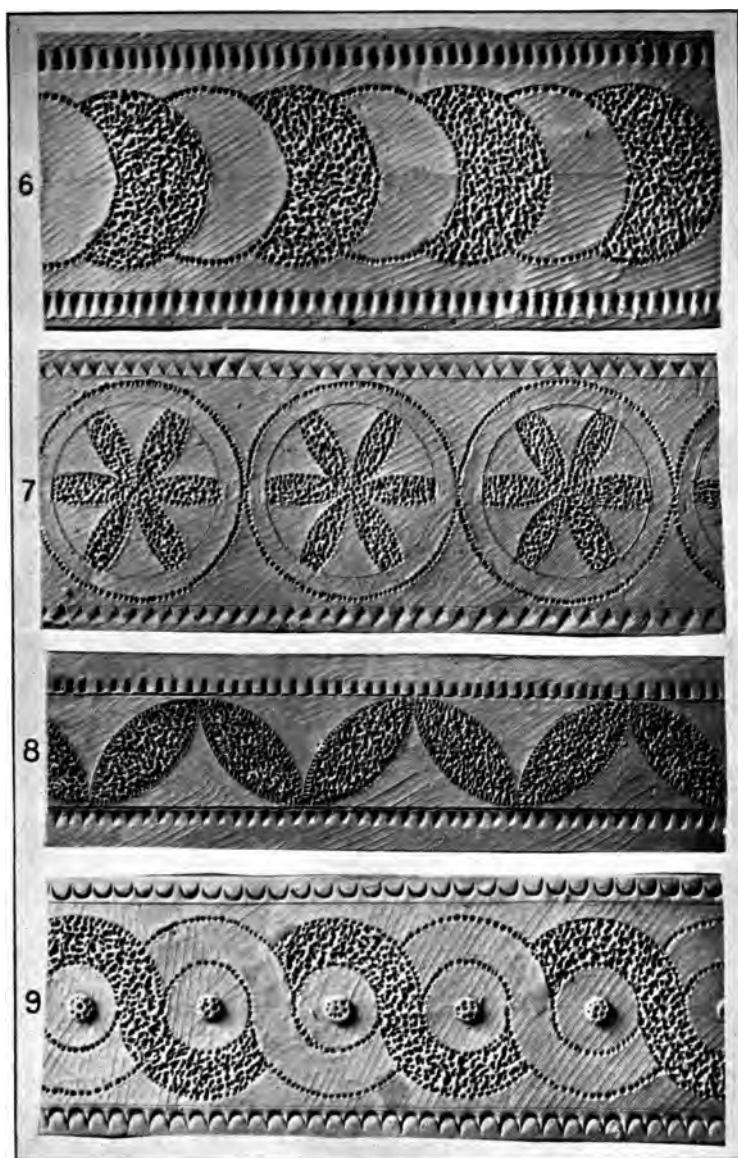


PLATE II.

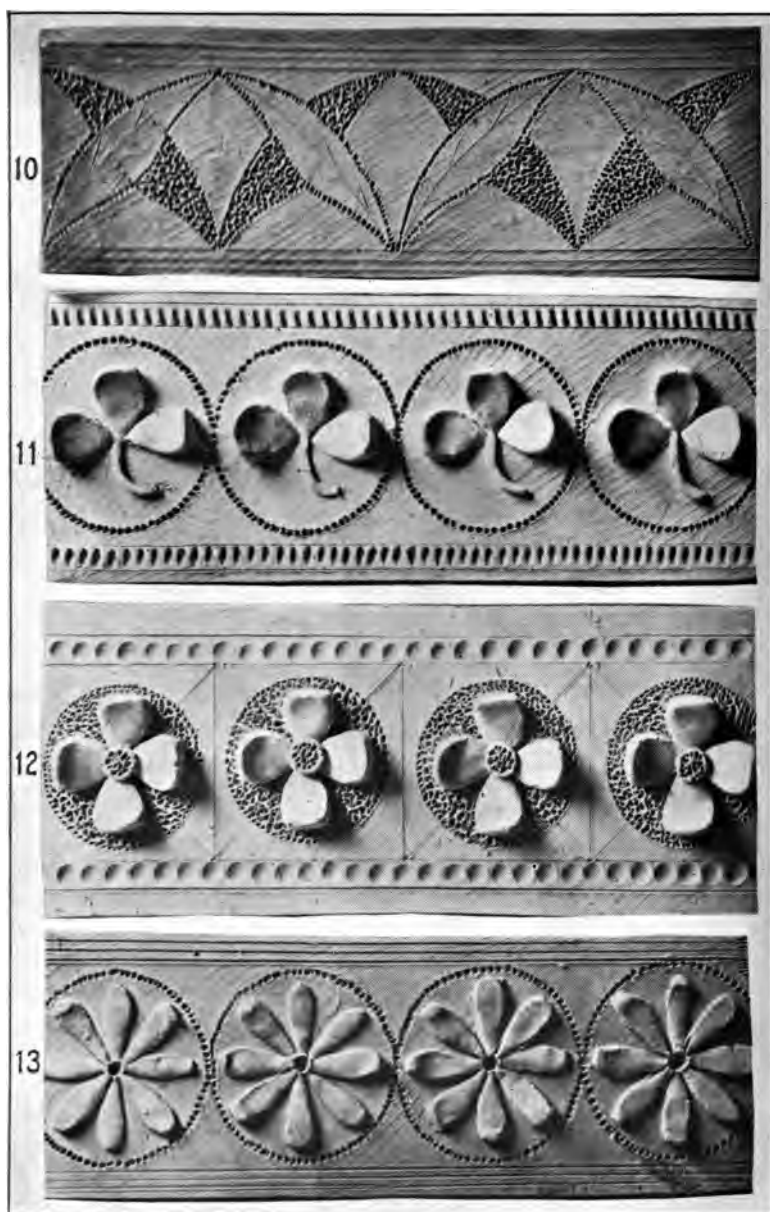
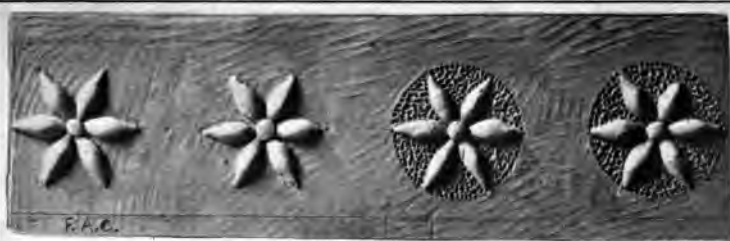
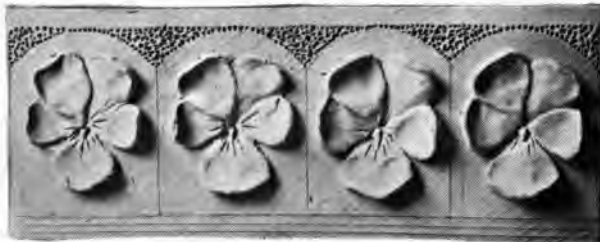


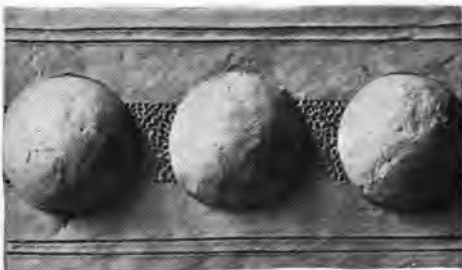
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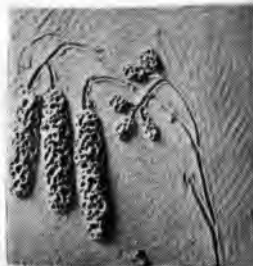
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PLATE IV.

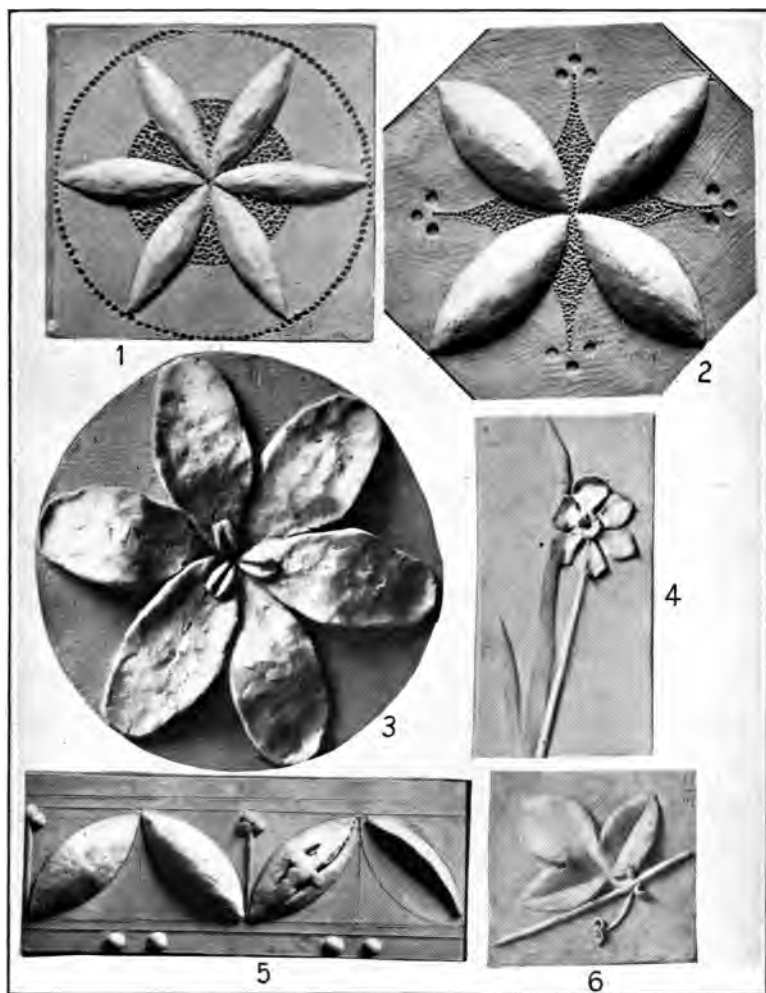


PLATE V.



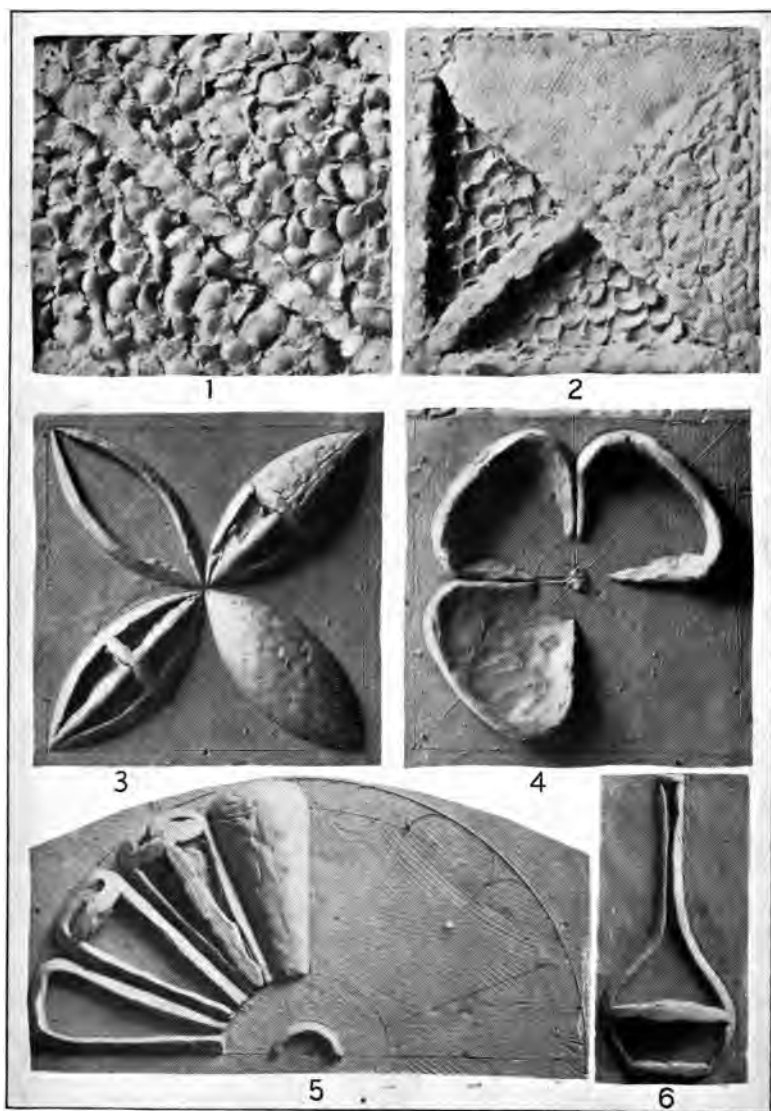


PLATE VI.



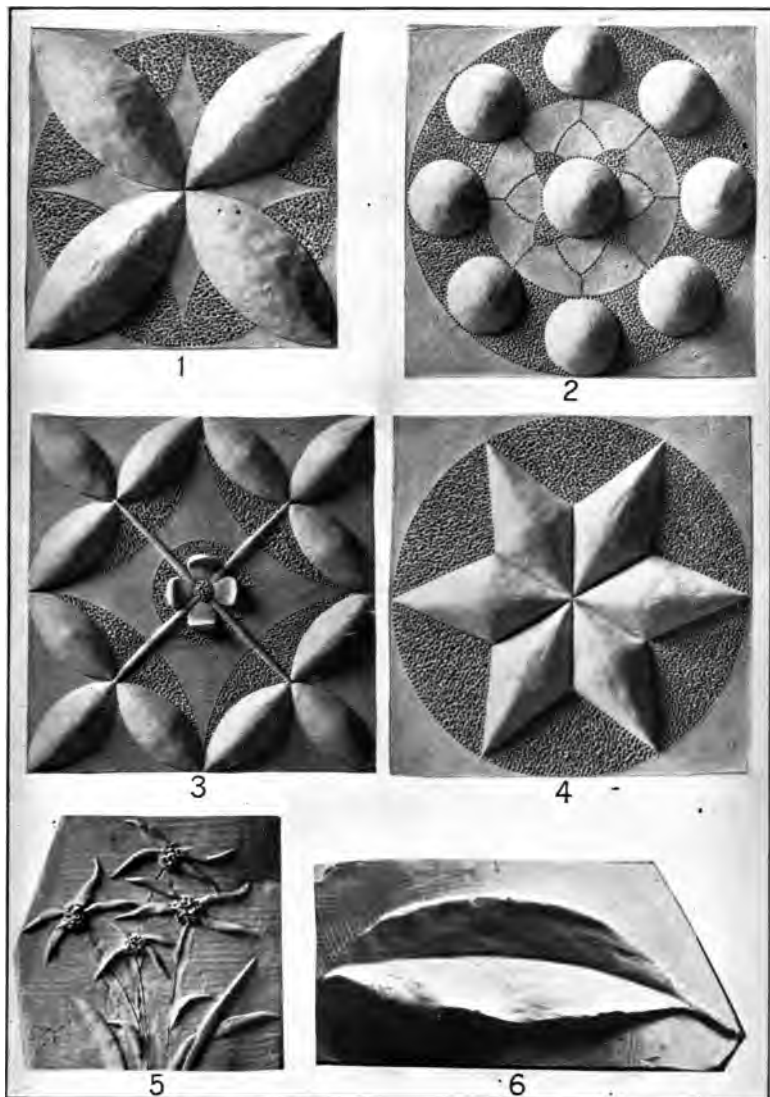


PLATE VII.

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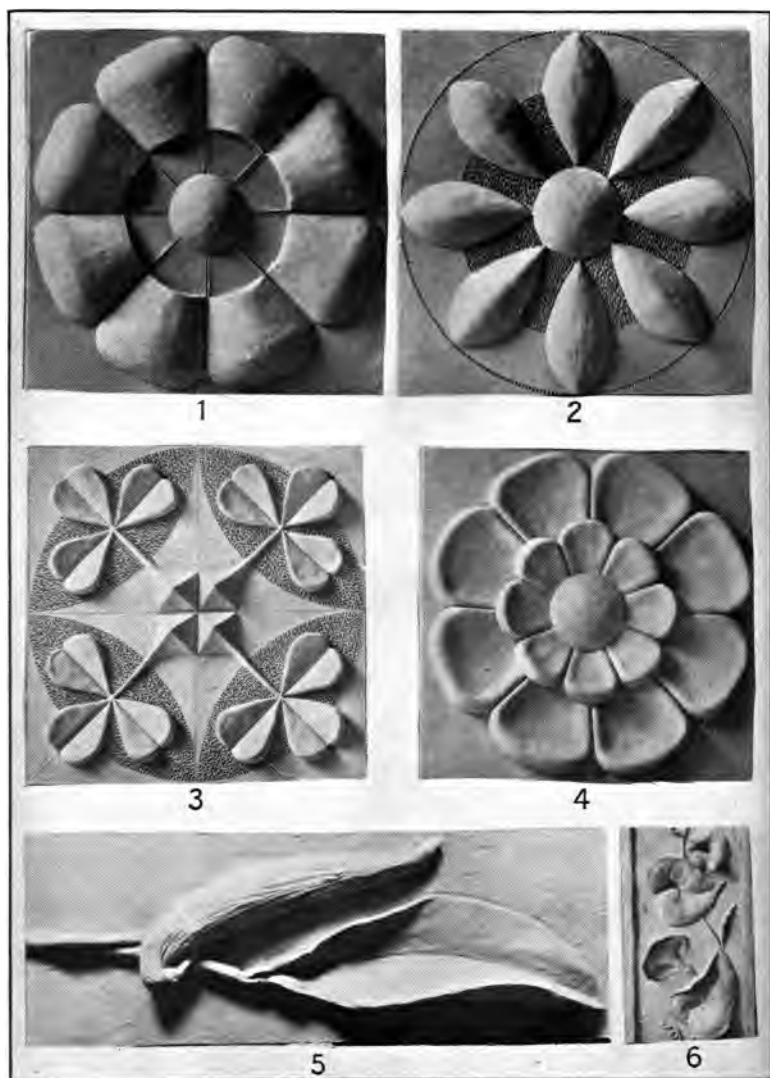


PLATE VIII.

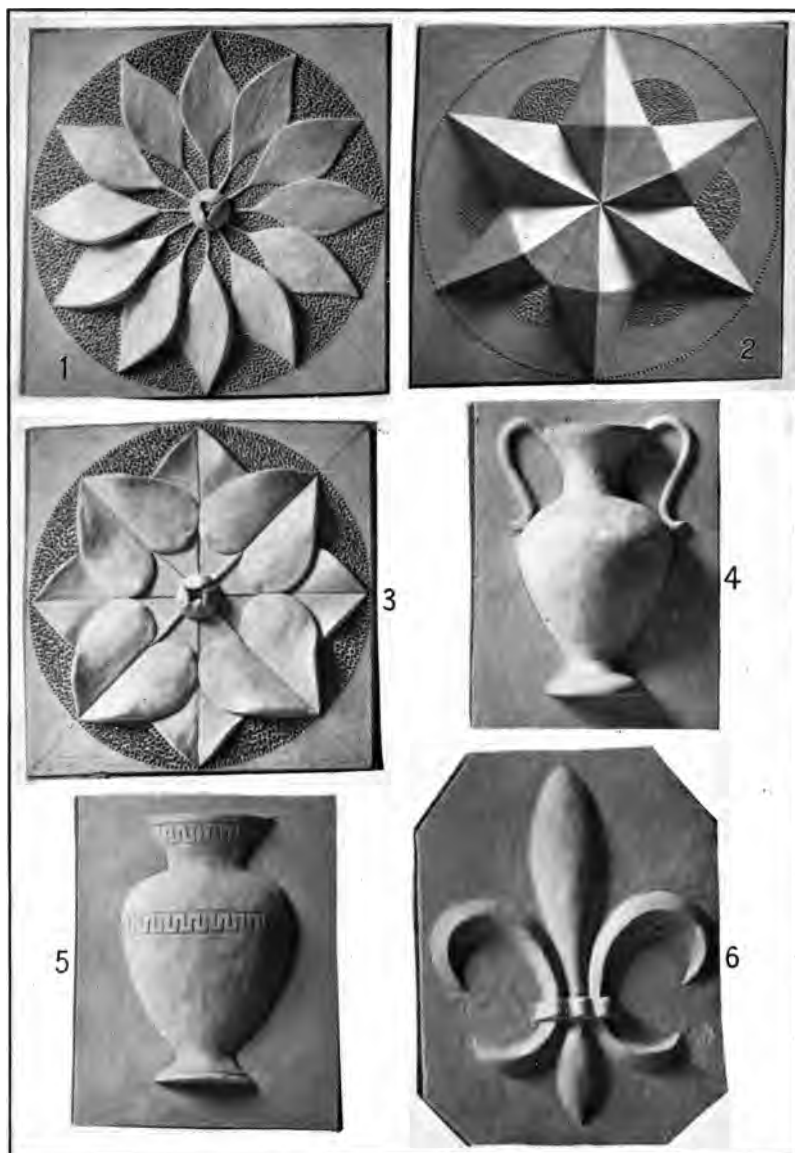


PLATE IX.

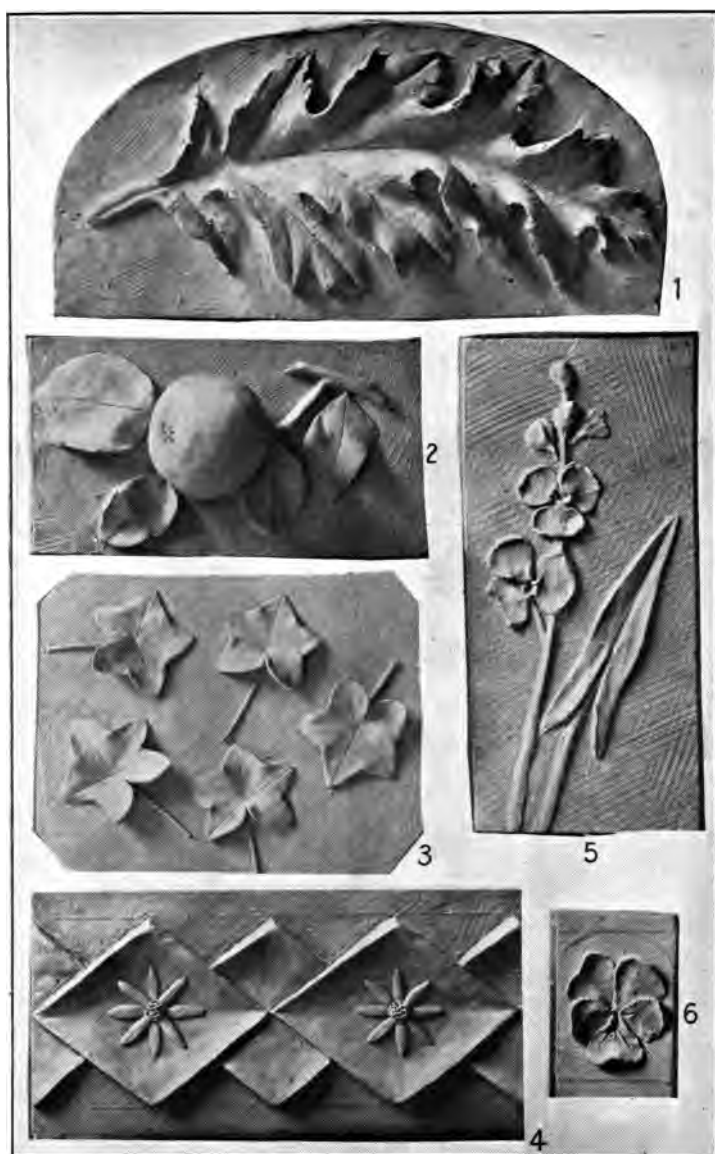


PLATE X.

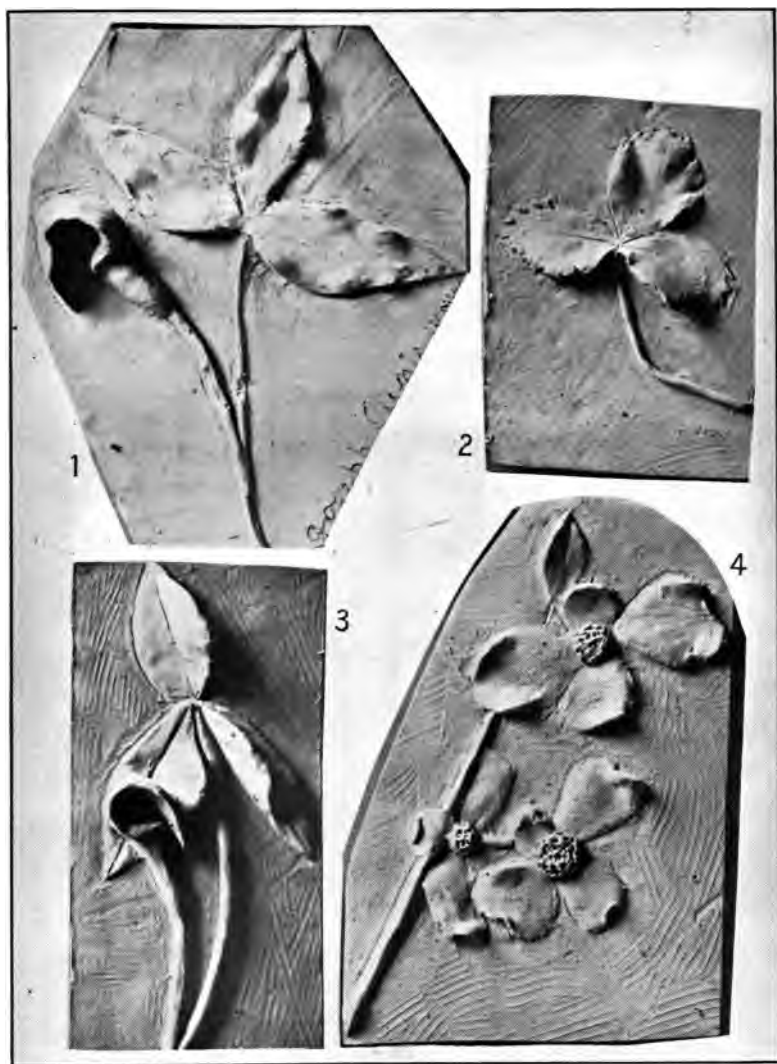


PLATE XI.



PLATE XII.



PLATE XIII.

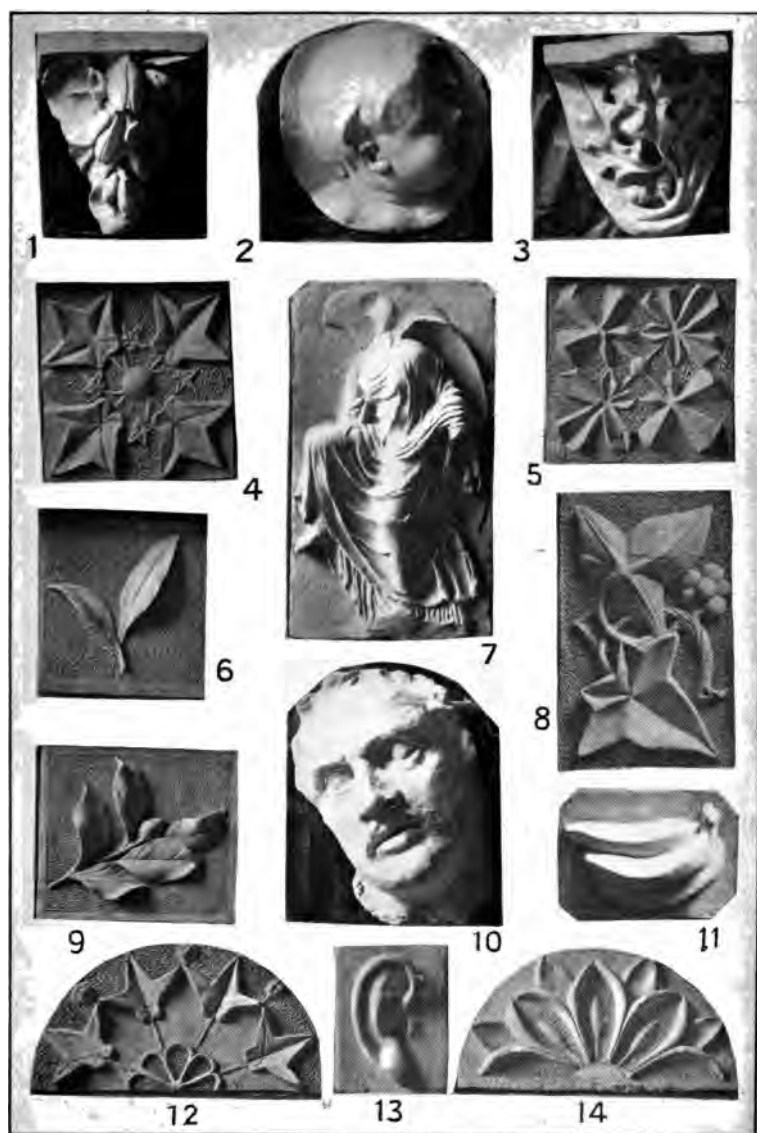


PLATE XIV.



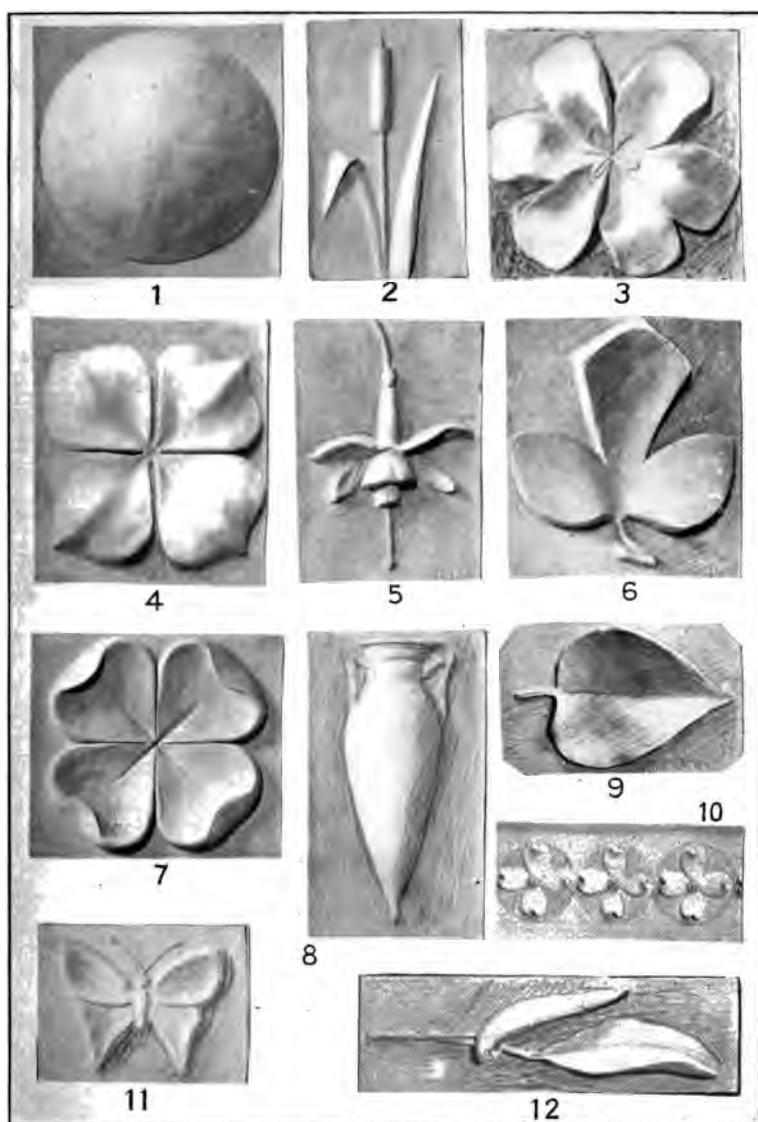


PLATE XV.



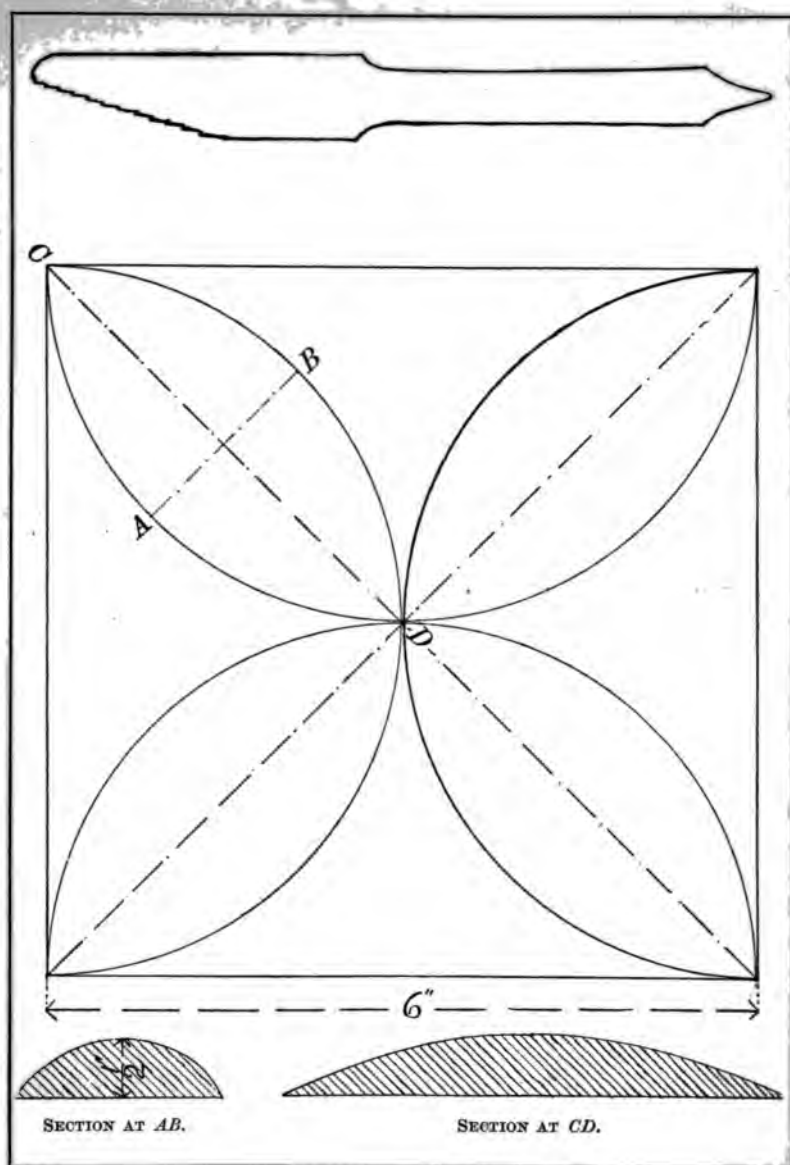


PLATE XVI.



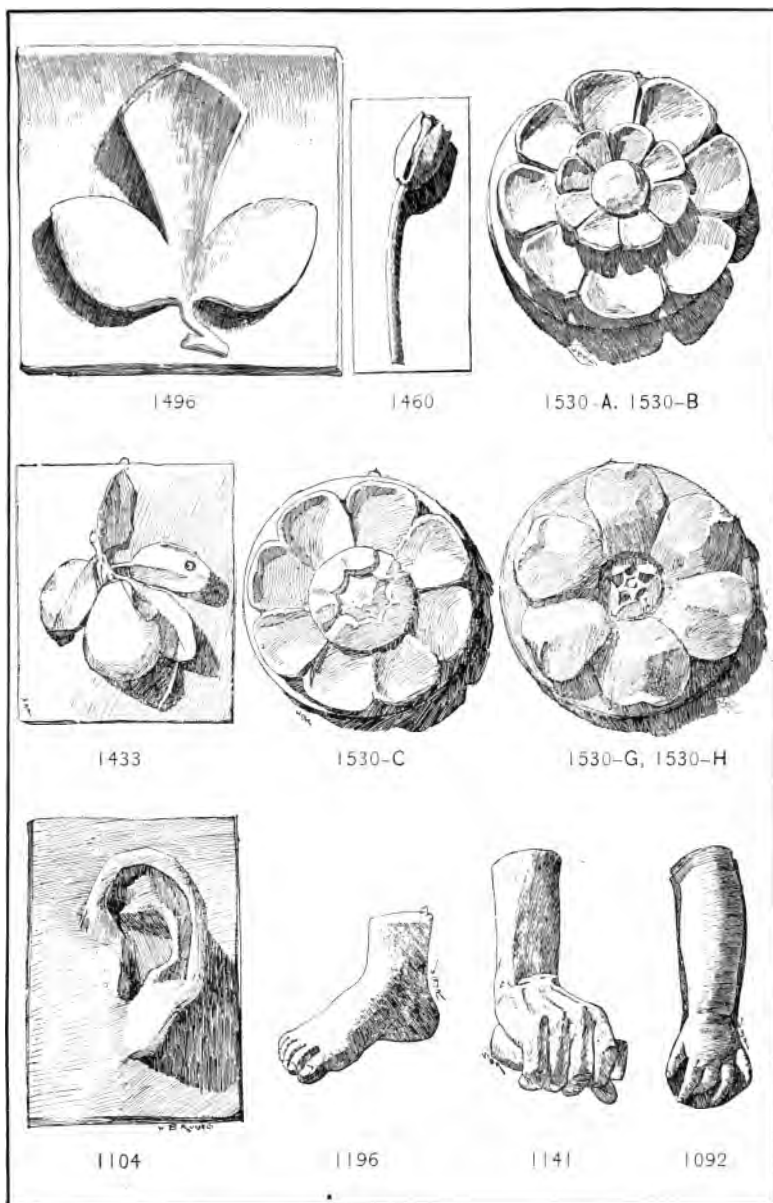


PLATE XVII.





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